STATE OF CALIFORNIA
California Energy Commission

In the Matter of:

Preparation of the *2011 Integrated Energy Policy Report (2011 IEPR)*

Docket No. 11-IEP-1A

COMMENTS OF CALIFORNIA UNIONS FOR RELIABLE ENERGY ON THE DRAFT 2011 INTEGRATED ENERGY POLICY REPORT

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California Unions for Reliable Energy ("CURE") submits these comments on the Draft 2011 Integrated Energy Policy Report ("Draft 2011 IEPR"). Specifically, CURE addresses the Draft 2011 IEPR's recommendation to update the 2003 Integrated Energy Policy Report ("2003 IEPR") water policy statement. CURE also recommends that the Commission circulate any proposed water policy to the public for review and comment prior to its adoption.

According to the Draft 2011 IEPR, the Energy Commission has been challenged with deciding whether the use of groundwater for power plant cooling, industrial or construction purposes is a reasonable use or reasonable method of use of water.[1] Further, according to Draft 2011 IEPR, "[t]here is no clear directive prohibiting the use of fresh water for power plant cooling, or for industrial and construction purposes, nor is there a clear allowance to use brackish or high total dissolved solids (TDS) water for these uses."[2] Therefore, the Draft 2011 IEPR presents several options "for the Siting and IEPR Committees to consider for helping improve the power plant licensing process in relation to water consumption."[3]

CURE supports the Draft 2011 IEPR's recommendation to update the 2003 IEPR water policy statement. CURE generally agrees with many of the options presented to help improve the power plant licensing process and offers the following comments on some of the options that would be considered in developing a proposed water policy.

Option No. 1: Eliminate the distinction between cooling and noncooling uses of water by power plants.

The distinction between cooling and noncooling uses of water by power plants should be eliminated. While the State Water Resources Control Board ("SWRCB") has a specific policy regarding the use of water for power plant cooling,[4] the Energy Commission's statutory mandates and policies are broader. Eliminating the distinction between a power plant's use of water for cooling and noncooling purposes would be more consistent with the Commission's mandates under the California Environmental Quality Act ("CEQA") and the Warren-Alquist Act. Neither statute distinguishes between water used for cooling and noncooling purposes.

Under CEQA, the Commission must determine whether a power plant project's use of water would result in significant direct, indirect or cumulative impacts.[5] If the Commission identifies a significant impact associated with a power

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[1] Draft 2011 IEPR, pp. 82-83.
[2] *Id.*, p. 83.
[3] *Id.*
[4] The State Water Resources Control Board Policy 75-58 prohibits the use of inland water for power plant cooling, if other alternatives are available and feasible. http://www.waterboards.ca.gov/board_decisions /adopted_orders/resolutions/1975/rs75_058.pdf.
[5] Public Res. Code § 21100(b)(1), § 21083.

plant's use of water, the Commission must require mitigation measures sufficient to minimize, reduce, or avoid the impact or to rectify or compensate for that impact.[6] The Commission's analyses must be conducted in light of the Legislature's intent to maintain "a quality environment for the people of this state now and in the future,"[7] to "[d]evelop and maintain a high-quality environment now and in the future,"[8] and to ensure the "long-term protection of the environment,"[9] among others.[10] CEQA does not distinguish between a power plant's use of water for cooling and noncooling purposes.

The Warren-Alquist Act requires the Commission to determine the project's conformity with other laws, ordinances, regulations and standards ("LORS"), among others.[11] The Warren-Alquist Act also sets forth the policy of the State and the intent of the legislature to "promote all feasible means of energy and water conservation and all feasible uses of alternative energy and water supply sources."[12] The Warren-Alquist Act does not distinguish between a power plant's use of water for cooling and noncooling purposes.

Article X, section 2 of the California constitution, which constitutes LORS, prohibits the waste, unreasonable use, unreasonable method of use or unreasonable method of diversion of water. The California constitution does not distinguish between water used for cooling and noncooling purposes.

SWRCB's Policy 88-63, which constitutes LORS and which governs the use of surface and groundwater, states:

> [a]ll surface water and ground waters of the State are considered to be suitable, or potentially suitable, for municipal or domestic water supply and should be so designated by the Regional Boards with the exception of [s]urface and ground waters where…[t]he total dissolved solids (TDS) exceed 3,000 mg/L (5,000 uS/cm, electrical conductivity) and it is not reasonably expected by Regional Boards to supply a public water system.

The policy does not distinguish between the use of surface or groundwater for cooling and noncooling purposes.

In sum, while the Warren-Alquist Act requires compliance with LORS, including the SWRCB's policy regarding the use of water for power plant cooling, the mandates and policies of both the Warren-Alquist Act and CEQA are broader. Neither CEQA nor the Warren-Alquist Act distinguishes between cooling and

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[6] CEQA Guidelines, § 21002; § 21081; Cal. Code Reg. §15370.
[7] Public Res. Code § 21000(a).
[8] Public Res. Code § 21001(a).
[9] Public Res. Code § 21001(d).
[10] *See also* Cal. Code Reg. § 15065, § 15126.2.
[11] Pub. Resources Code §§ 25523(d)(1), 25525.
[12] Pub. Resources Code § 25008.

noncooling uses of water by power plants. Therefore, the Commission's water policy statement should eliminate the distinction and should be revised accordingly.

Option No. 2: Promote best management practices or establish a hierarchy of water use options (for example, dry cooling plus recycled water for all nonpotable uses; recycled water for both cooling and all other nonpotable uses; high TDS water; and so forth), as opposed to firm requirements.

The concept of "promot[ing] best management practices" is vague and fails to prevent the unreasonable use of water, to promote all feasible means of water conservation and all feasible uses of water supply sources and to ensure that water resources of the State be put to beneficial use to the fullest extent of which they are capable.[13]

The Commission should establish a hierarchy of water use options for cooling and noncooling purposes. Dry cooling should be required for power plant cooling, if technologically and economically feasible. For noncooling purposes, the least amount of the lowest quality water should be used, if the environmental impacts of using such water are less than significant or the Commission finds that the benefits of the project outweigh its unavoidable significant impacts. In other words, the determination of whether and what type of water is appropriate for any particular project's cooling and noncooling purposes must be determined on a case-by-case basis, with dry cooling as the starting point for cooling and the hierarchy of water supply for noncooling purposes.

For power plant cooling, Energy Commission Staff recently found, based on substantial evidence, that dry cooling is a technologically and economically feasible cooling technology.[14] Because dry cooling is feasible, wet cooling (whether it be with recycled water or high TDS water) violates the Warren-Alquist Act's mandate that the Commission "promote all feasible means of energy and water conservation and all feasible uses of alternative energy and water supply sources"[15] and Article X, section 2 of the California Constitution, which declares that "the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable" and prohibits the waste, unreasonable use or unreasonable method of use of water. Wet cooling also violates the State Water Board's policy that:

> [a]ll surface water and ground waters of the State are considered to be suitable, or potentially suitable, for municipal or domestic water supply and should be so designated by the Regional Boards with the exception of [s]urface and ground waters where…[t]he total dissolved solids (TDS) exceed 3,000 mg/L (5,000 uS/cm, electrical conductivity)

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[13] Pub. Resources Code § 25008; California Constitution, Article X, section 2.
[14] *See*, *e.g.*, Commission Decision, Beacon Solar Energy Project (08-AFC-2), August 2010, p. 18.
[15] Pub. Resources Code § 25008.

and it is not reasonably expected by Regional Boards to supply a public water system.[16]

Only if the Applicant can demonstrate that dry cooling is technologically or economically infeasible for a particular project should wet cooling be permitted.

For noncooling purposes, the least amount of the lowest quality water should be used. Any other use would violate State law and policy, as explained in the preceding paragraph. Allowing the least amount of the lowest quality water for noncooling purposes, only if the environmental impacts of using such water are less than significant or the Commission finds that the benefits of the project outweigh its unavoidable significant impacts, is required to comply with CEQA.

Option No. 3: Determine conformity of the Energy Commission's water policy on a case-by-case basis.

The Commission should determine, on a case-by-case basis, whether a proposed power plant conforms to the Energy Commission's water policy. In fact, the Commission is obligated to do so. The Commission's policy is guided by CEQA, the Warren-Alquist Act, the California constitution, and numerous other laws, ordinances, regulations and standards regarding water use in California. Ultimately, the application of these laws and policies to any particular project is highly fact dependent and is one of the main functions of the data request, staff assessment and evidentiary hearing process.

For example, the characterization of water quality on a particular project site is fact dependent. Water quality is highly localized. Whether using any particular water source is environmentally undesirable depends on the specific environmental factors and impacts of using the particular water source. Groundwater quality can vary within a region and even within a single project site. The issue is highly fact dependent and is one of the main functions of the data request, staff assessment and evidentiary hearing process.

In addition, whether alternative water supplies and alternative cooling technologies are feasible depend on the specific economics of each project. The cost of each alternative cooling option and the comparative cost of alternatives to the total cost of the project, among other relevant issues, are highly fact specific and have, in recent cases, been the source of data requests, staff assessments and workshops.

[16] SWRCB Policy 88-63.

Option No. 4: Change data adequacy regulations; for example, provide information sufficient for detailed showing of economic (in) feasibility of dry cooling, recycled water use, zero liquid discharge, and so forth.

Power plant project applicants should be required to provide sufficient information regarding the economic feasibility of dry cooling technologies with their applications for certification ("AFC"). Public Resources Code section 21002 sets forth the policy of the state that "public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects…" CEQA defines "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."[17] "The fact that an alternative may be more expensive or less profitable is not sufficient to show that the alternative is financially infeasible. What is required is evidence that the additional costs or lost profitability are sufficiently severe as to render it impractical to proceed with the project."[18] In short, State law prevents the Commission from approving a power plant project with significant impacts to water resources without first evaluating whether any feasible alternatives or mitigation measures (*e.g.* dry cooling) would reduce those impacts.

Also, time is wasted during discovery trying to uncover information regarding the feasibility of various technologies. By submitting the information with the AFC, parties will be able to review the AFC expeditiously and resolve any technical issues regarding water use early in the siting process.

Option No. 6: Establish firm thresholds for water use by power plants; for example, efficiency standards (maximum acre-feet per year [AFY] per MW); or, alternatively, require that water use be as efficient as possible.

CURE does not support a requirement that "water use be as efficient as possible." The proposal is vague and fails to comply with State law. Specifically, to require that water be used "as efficient[ly] as possible" violates the Warren-Alquist Act's mandate that the Commission "promote all feasible means of energy and water conservation and all feasible uses of alternative energy and water supply sources."[19] It also violates the requirement of Article X, section 2 of the California Constitution that "the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable" and prohibits waste, unreasonable use or unreasonable method of use of water.

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[17] Pub. Resources Code § 21061.1.
[18] *Citizens of Goleta Valley v. Board of Supervisors* (1988) 197 Cal.App.3d 1167, 1181.
[19] Pub. Resources Code § 25008.

Option No. 7: Universally proscribe the use of evaporation ponds.

The Commission should prohibit using evaporation ponds. However, a blanket prohibition, without qualifications, could result in other significant impacts to the environment, unless the Commission universally requires dry cooling. If the Commission continues to allow water to be used for cooling purposes, then the Commission should explore alternatives for the water discharge, in advance of declaring a water policy, to ensure that projects do not result in other, or even greater, significant impacts to the environment.

Evaporation ponds pose significant threats to biological resources. Waterfowl, shorebirds and other resident and migratory birds that drink or forage at evaporation ponds are harmed by selenium or hyper-saline conditions resulting from high TDS concentrations. Numerous waterfowl deaths have been recorded at evaporation ponds due to salt toxicosis.[20] Also, evaporation ponds create a new source of water which, in a desert environment where water is scarce, attracts ravens and increases predation rates on juvenile desert tortoise and other animals.[21]

The threat to wildlife posed by evaporation ponds is a completely unnecessary one. Recently, Commission Staff concluded that dry cooling (a feasible cooling technology) would eliminate the need for evaporation ponds and, therefore, would eliminate the threat to wildlife.[22]

Option No. 8: Universally require the use of recycled water for cooling, mirror washing, and other industrial purposes.

CURE does not support this option as a blanket requirement, because it does not necessarily promote all feasible means of water conservation and all feasible uses of water supply sources and ensure that water resources of the State be put to beneficial use to the fullest extent of which they are capable, as required by State law.[23] Rather, the Commission should require proposed power plants to be dry cooled, if substantial evidence shows that dry cooling is technologically and economically feasible for a project. Also, the least amount of the lowest quality water should be used for noncooling purposes, as long as such use is consistent with CEQA, the Warren-Alquist Act and other State and local laws and policies.

CURE also does not support a policy which universally requires the use of recycled water because it does not allow consideration of recycled water use in local jurisdictions. The Commission's water policy should be flexible enough to take into account water use in local jurisdictions in determining the appropriate water source for any particular project. (See Option 10.)

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[20] Final Staff Assessment for Beacon Solar Energy Project (08-AFC-2), pp. 4.2-41-42.
[21] *Id.*
[22] *Id.*, p. 4.2-42.
[23] Pub. Resources Code § 25008; California Constitution, Article X, section 2.

Option No. 9: Universally require the use of dry cooling.

The Commission should require proposed power plants to be dry cooled unless substantial evidence shows that dry cooling is not technologically or economically feasible for a project. For example, the Commission found, based on substantial evidence, that dry cooling was a feasible cooling technology for the Beacon Solar Energy Project.[24] If dry cooling is feasible, using wet cooling violates the Warren-Alquist Act's mandate that the Commission "promote all feasible means of energy and water conservation and all feasible uses of alternative energy and water supply sources."[25] Using wet cooling in this instance would also violate Article X, section 2 of the California Constitution, which declares that "the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable" and prohibits waste, unreasonable use or unreasonable method of use of water.

Furthermore, dry cooling would eliminate the need for evaporation ponds and would therefore eliminate the significant threat to migratory birds, desert tortoise and other animals and environmental resources posed by ponds.

Option No. 10: Adopt a policy of requiring recycled water except where 1) there are feasible alternatives and 2) the recycled water is demonstrated to be used for current or future needs.

Depending on the specific facts of a power plant project, recycled water may be the best option for cooling and/or noncooling uses. However, the Commission must consider, on a case-by-case basis, the impacts from using recycled water, including, but not limited to, whether the water would ultimately be discharged into evaporation ponds. The Commission must also consider, on a case-by-case basis, the reasonableness of allowing a project to use recycled water that would otherwise be used for beneficial purposes in a water scarce environment. Finally, the Commission must consider whether a feasible mitigation measure or alternative exists that does not require the use of water and would eliminate significant impacts (i.e., dry cooling).

Option No. 11: Groundwater adjudications shall not be a substitute for an independent staff evaluation of a project's groundwater impacts.

Groundwater adjudications are not a substitute for the Commission's independent evaluation of a project's groundwater impacts. Groundwater adjudications determine water rights, extractors, amounts available for extraction and who will manage the groundwater basin. In contrast, the Commission has distinct obligations under CEQA and the Warren-Alquist Act regarding a project's use of water. Pursuant to the Warren-Alquist Act, the Commission must determine

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[24] *See*, *e.g.*, Commission Decision, Beacon Solar Energy Project (08-AFC-2), August 2010, p. 18.
[25] Pub. Resources Code § 25008.

whether a project's proposed water use complies with all LORS,[26] including any groundwater adjudications. Separately, CEQA requires the Commission to determine whether a power plant project's use of water would result in significant direct, indirect or cumulative impacts, at the time a project is proposed.[27] If the Commission identifies a significant impact associated with a power plant's use of groundwater, the Commission must require mitigation measures sufficient to minimize, reduce, or avoid the impact or to rectify or compensate for that impact.[28] The Commission's obligations under CEQA are distinct from its obligation to determine a project's conformity with groundwater adjudications. Therefore, the Commission must independently evaluate a project's groundwater impacts.

Option No. 12: Proscribe any water use that causes impacts to the Delta or Colorado River water supplies.

Whether a project's water use would impact the Delta or Colorado River water supplies is necessarily a question of fact and should be evaluated on a case-by-case basis. With respect to the Colorado River, if it is determined that a project would impact the Colorado River by using River water or pumping groundwater that induces flow from the River, the Commission must prohibit the water use, unless the project applicant has a legal entitlement to Colorado River water. Colorado River water is fully apportioned pursuant to federal law. Federal law prohibits the use of Colorado River water or the pumping of groundwater which induces flow from the River without an entitlement.

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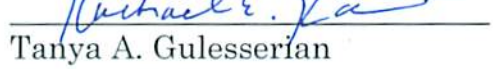
Respectfully submitted,



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[26] Pub. Resources Code §§ 25523(d)(1), 25525.
[27] Public Res. Code § 21100(b)(1), § 21083.
[28] CEQA Guidelines, § 21002; § 21081; Cal. Code Reg. §15370.